

the amendment of the law touching letters patent for inventions, the several stamp duties following—that is to say:—

On warrant of law officer for letters patent £3	0	0
On certificate of clerk of the patents of payment of the fee payable at or before the expiration of the third year	10	0
On certificate of clerk of the patents of payment of the fee payable at or before the expiration of the seventh year	20	0
2. Resolved—That there shall be paid to her Majesty the following fees on the respective documents herein stated:—		
On leaving petition for grant of letters patent	£3	0
On notice of intention to proceed with the application	5	0
On sealing of letters patent	5	0
On filing specification	5	0
At or before the expiration of the third year	40	0
At or before the expiration of the seventh year	80	0
On extension of period of provisional protection	10	0
On leaving objections to granting of letters patent	2	0
Every search and inspection	0	1
Entry of assignment or license	0	5
Certificate of assignment or license	0	5
Filing application for disclaimer	5	0
caveat against disclaimer	2	0

#### STAMP DUTIES TO BE PAID.

On warrant of law officer for letters patent	5	0	0
On certificate of clerk of the patents of payment of the fee payable at or before the expiration of the third year	10	0	0
On certificate of clerk of the patents of payment of the fee payable at or before the expiration of the seventh year	20	0	0
3. Resolved—That compensation be made, out of the Consolidated Fund of the United Kingdom of Great Britain and Ireland, to persons entitled to fees and charges payable in respect to letters patent, for any loss they may sustain in consequence of any Act which may be passed for the further amendment of the law touching letters patent for inventions."			

#### THE IRON TRADE.

FROM a return which has been printed by order of the House of Commons, it appears that last year 785 tons of iron ore, 1,613 tons of chromate of iron, 650 tons of pig iron, 34,065 tons of unwrought iron in bars, 933 tons of bloom iron, &c., were imported, principally from Sweden and the United States, into this country. The iron exports were 4,996 tons of unwrought iron in bars (nearly 5,000 tons of which were exported to the East Indies), and 648 tons of unwrought steel. The declared value of the wrought iron and steel imported was 60,338*l.*, and that of the wrought iron and steel exported 33,139*l.* The quantity of British iron exported from the United Kingdom last year was very considerably greater in almost every form—pig iron, bar iron, cast iron, &c.—than in the year 1849. The declared value of last year's exports of British hardware and cutlery was 2,641,432*l.* and the quantity was 25,746 tons. In the year 1849 the quantity was 23,421 tons, and the declared value 2,201,314*l.* The declared value of the machinery and mill-work exported last year was 1,042,166*l.*, of which 203,991*l.* was the value of the articles of this description exported to Russia, 117,349*l.* of those sent to Italy, 84,534*l.* to the Hanseatic towns, 73,167*l.* to Spain, 59,106*l.* to France, 83,508*l.* to the West Indies, 49,970*l.* to the East Indies, &c. The value of the machinery and mill-work exported in 1849 was 700,630*l.*

In reference to the present state of the trade, in the raw material, chiefly, amongst the Staffordshire and other iron-masters, a Birmingham paper says:—"Throughout every branch of the business, complaints of losses and want of remuneration are most energetic. The occupiers of coal and ironstone works assert that their mines are being exhausted at rates that scarcely realise the royalties to the proprietors, and the enormous burthens of taxation and parochial payments to which they are subjected. The owners of blast furnaces affirm that, even with the present thankless

prices of materials, the cost exceeds the marketable value of their pigs; and the manufacturer declares that he can obtain no return for his capital or risk, the latter being a consideration of weighty account at the present moment. Confidence, indeed, is fast giving way to a feeling of anxiety for the result of the present unmodified production under such ruinous circumstances."

#### PARIS AND THE GREAT EXHIBITION.

AFTER the Canynges Society's dinner in Bristol on Thursday night in last week, one railway took us to London, and another, with a steam-boat in correspondence, put us down, on the following evening, with a goodly company besides, in the metropolis of France, to enjoy the hospitality of the Municipality and the President. The Hotel de Ville, with its affluence of decorations; Versailles, with its acres of painted canvasses and limitless water-spouts; and St. Cloud, with its delicious gardens (and a fight for estates that beat Guildhall hollow), have been crowded with our countrymen and countrywomen, delighted with all they saw. We must postpone till next week, however, anything we may have to say on the subject.

#### BELLS, GREAT AND LITTLE.\*

THE casting of bells is of great antiquity: the first are said to have been founded at Campana in the year 400. But in the Jewish ceremonies of the tabernacle, and afterwards in the temple, bells of gold were attached to the dress of the high priest. The largest bells in the world are in China and Russia, and at Nankin there were four bells of such enormous size that, when first struck with a wooden hammer, they brought down the tower, and still lie neglected among the ruins. The weight of one was computed at 50,000*lbs.*, double the weight of the bell at Erfurt, said to be the largest in the world. But in the belfry of St. Evan's Church, at Moscow, is one weighing 127,000*lb.* and it was surpassed by one cast at the expense of the Empress Anne, weighing 430,000*lb.* This is, undoubtedly, the largest bell in the world. The tradition is that the beam on which it hung was accidentally burnt; but this is denied. The Russians might as well attempt to suspend a first-rate man-of-war with all her guns and stores. It is 67 feet in circumference, and more than 21 feet high. Its real history is this:—A fire took place in the Kremlin, the flames of which caught the building erected over the pit in which the bell still remained after having been cast. In consequence of this the metal became hot, and the water thrown on the building to extinguish the flames fell upon the bell, causing a fracture near the bottom, sufficiently large to admit two persons almost without stooping. Its value is about 67,000*l.*, and it has been for more than a century in its present position. The largest bells of England are those of Christ Church, Oxford, weighing 17,000*lb.*; St. Paul's, London, 11,474*lb.*; and Great Tom of Lincoln, 10,854*lb.* We may add to this outline of casting in brass and bronze one fact relative to the necessity of great caution. Towards the end of the 17th century there was a foundry at Moorfields, and in 1716 the cannon taken by the Duke of Marlborough from the French was about to be recast there, and attracted a great number of visitors and strangers, including one Seale, a Swiss founder. He observed that the moulds were not sufficiently dry, and communicated the fact to the principals of the department; but, piqued at being dictated to by a foreigner, they treated his warning with contempt. When the red hot metal flowed into the moulds, the moisture was converted into steam, and a fatal explosion took place. The liquid metal flew in every direction, a great part of the building was destroyed, and several lives lost. In consequence of this the foundry was removed to Woolwich, and the management of it entrusted to the sagacious Seale.

\* From the Morning Herald.

#### Miscellaneous.

ZINC.—Sir,—The foreign zinc is no better, not more durable, nor more useful than British zinc; and if some *Société Anonyme* would patriotically do as much for it, as the Belgium government and the rest do for "Vieille Montagne," more of it would be used. It is unfit for a tropical voyage, and no sane shipowner would put zinc on the bottom of his vessel, when he could obtain copper, which endures much longer; and the labour being the same the dearer copper is cheaper than zinc. I have put slips of zinc outside the copper round the bows, which have tended to preserve the copper from oxidating for a time; but that is all I would recommend on that subject. Zinc is useful for building purposes, windows, tubing, &c. &c., to all which purposes our people first applied it. We rendered it malleable, rolled it into sheets, and applied to our uses, which uses they have not the habit of using, so that they cannot reciprocate our indulgence. As to zinc paint, oxide of zinc, although it is relatively lighter than oxide of lead, and ought to be cheaper, yet the trade of it is mystified, and it comes to the public dearer than lead in comparison; besides, it is not new nor of recent discovery.—L.

STEAM ONCE MORE "GOING."—A gentleman who, on the respectable authority of *Arie's Birmingham Gazette*, was ridiculed about seven years ago for maintaining the "absurd idea" of the practicability of establishing an Electro-Magnetic Telegraph, by submarine agency, across the Channel, and even suggesting the possibility of carrying it on to India, now announces the discovery of "a new Motive Power by mechanical agency, as an economic substitute for steam to a considerable extent, and likewise a power for lifting immense weight by small and inexpensive means, *ex. gr.* lifting water, both as to height and quantity, ample for generating sufficient water power for mill purposes—working itself—also for draining low lands by raising water to a higher level to be taken seawards." We understand that one of the projects of the advertiser is to raise water 22 feet high, at the rate of 100,000 gallons per hour. The doings of Appold's centrifugal pump are nothing to this machine, which is capable of "working itself."

NATIONAL GALLERY.—Lord John Russell, in laying upon the table of the House of Commons the report of the commissioners appointed to inquire respecting a site for the National Gallery, said, that the commissioners had reported their opinion to be, that the National Gallery ought not to be left on its present site, and that it was very desirable to obtain a better site in the neighbourhood of Hyde-park or Kensington-gardens. They also stated it to be their opinion that a site in the neighbourhood of Hyde-park might be procured on reasonable terms; but if that should turn out not to be the case, and the expense was too great, then that the new gallery should be built in Kensington-gardens. The Government would take the whole subject into their consideration before the next Session of Parliament.

NEW MATERIAL FOR PIPES AND PILARS, VASES AND RESERVOIRS, &c.—A patent, dated 22nd of July last, has been granted to Thomas, Earl of Dundonald, Admiral in her Majesty's navy, of Chesterfield-street, in the county of Middlesex, for improvements in the construction and manufacture of sewers, drains, water-ways, pipes, reservoirs, and receptacles for liquids or solids; and for the making of columns, pillars, capitals, pedestals, vases, and other useful and ornamental objects, from a substance never heretofore employed for such manufactures.

STOPPAGE OF BLACKFRIARS BRIDGE.—From the 1st inst. the thoroughfare for carriages was stopped. Foot passengers, however, are permitted to pass over as usual. The committee, it seems, have been reluctantly obliged to adopt this step, the continual sinking of the defective pier giving rise to serious apprehensions for the safety of the public. This is no more than we anticipated.